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Published in:
Book of Abstracts. DTU's Sustain Conference 2015

Publication date:
2015

Document Version
Publisher's PDF, also known as Version of record

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Figure 1: Residential housing, picture by Jennifer Fiebig, Sisimiut, Greenland 2014

For centuries extreme climatic conditions are prevailing in arctic regions where snow and ice are known as a significant problem for the built environment. Simultaneously, the weather affects the outdoor activities for a long period of time and restricts the mobility and social interaction. Snow and wind have a high impact on the structural design of buildings and urban planning. The observed higher temperatures in the arctic cause higher densities of snow and rain events lead to wet and heavy snow. In order to understand the interaction of snowdrift between the architectural designs an in situ observation is necessary. In the field observation the snow phenomenon will be studied in two main cities on Greenland. A photometric study of snowdrift and accumulation around and between buildings in Sisimiut and Nuuk will be conducted. The photometric full-scale observation provides information for investigations of snow depositions for wind tunnel testing at reduced scale. The experimental study will be performed in the small boundary-layer wind tunnel at DTU Civil Engineering.